

ABSTRACT

A reduced size catadioptric inspection system employing a catadioptric objective and immersion substance is disclosed. The objective may be employed 5 with light energy having a wavelength in the range of approximately 190 nanometers through the infrared light range, and can provide numerical apertures in excess of 0.9. Elements are less than 100 millimeters in diameter and may fit within a standard microscope. 10 The objective comprises a focusing lens group, a field lens, a Mangin mirror arrangement, and an immersion substance or liquid between the Mangin mirror arrangement and the specimen. A variable focal length optical system for use with the objective in the 15 catadioptric inspection system is also disclosed.